CW#64: Similarity

Geometry

Due: Thursday, Jan 7th

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

You will be able to write and solve proportions in various contexts.

**Bronze:**

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| 1) Is either Δ*LMN* o*r* Δ*RST* similar to Δ*ABC*? | 2) Determine whether the two triangles are similar. If they are similar, explain how you know and find the scale factor of Δ*A* to Δ*B.* |
| 3) Show that triangles PTQ and PRS are similar and *explain* yourreasoning using complete sentences. | 4) Show that the triangles are similar and write a similarity statement. *Explain* yourreasoning. |

**Silver:**

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| 5) In order to estimate the height *h* of a tall pine tree, a student places a mirror on the ground and stands where she can see the top of the tree, as shown. The student is 6 feet tall and stands 3 feet from the mirror which is 11 feet from the base of the tree. | |
|  | a. What is the height *h* (in feet) of the pine tree?  b. Another student also wants to see the top of the tree. The other student is 5.5 feet tall. If the mirror is to remain 3 feet from the student's feet, how far from the base of the tree should the mirror be placed? |
| 6) | |
| 7)  C  B   1. http://www.mathsrevision.net/sites/mathsrevision.net/files/sector.gif What is the area of the circle if r =12? 2. If m∠A = 60°, what ratio expresses the size of  ∠A in relation to the number of degrees in the entire circle? 3. Using this ratio, what is the area of the shaded portion? | |

Extended Practice:

**Bronze:**

pg. 362 progblems7- 12

**Silver:**

pg. 362 problem 13

pg. 363 problems 14-18

**Gold:**

Pg. 364 problem 364

Pg. 371 problem 17

**Gold:**

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| 7) Complete parts a-e using the graph below.  http://mathbits.com/MathBits/StudentResources/GraphPaper/14by14%20axes.jpg  (a) Using the origin as the center of dilation, dilate the triangle using a scale factor of 3.  (b) Find side lengths of each triangles sides.  (c) Calculate the perimeter of each triangle, how are they related?  (d) Calculate the area of each triangle, what happened to the area? What scale factor was applied?  (e) Write two sentences generalizing the relationship between scale factor and area/ perimeter. |